# Utah Department of Transportation


# Supplemental Drawings for

# 2005 Standard Specifications

# FOR ROAD AND BRIDGE CONSTRUCTION

**U.S. Standard Units (Inch-Pound Units)**

**Issued July 16, 2007**

# Memorandum

**UTAH DEPARTMENT OF TRANSPORTATION**

**DATE:** July 16, 2007

**TO:** Holders of Hard Copy of Standard Drawings

**FROM:** Barry Axelrod, CDT
Standards and Specifications

**SUBJECT:** Supplemental Drawing Distribution, dated July 16, 2007

Applicable files for the change are attached. Maintain these files as a supplemental update to the UDOT Standard Drawings dated February 1, 2007. No pages are to be removed or replaced in the basic book, electronic or hard copy.

If you are in need of electronic copies of any Standard or Supplemental Drawing please refer to the Standards and Specifications Web site at http://www.udot.utah.gov/go/standardsandspecifications. From there select the **2005 Standards** subtopic.

Please note that the 2005 Standards are still in effect. The next version of the Standards is planed for 2008.

If you have any questions or problems with the electronic files contact me at 801-964-4570 or by email at **baxelrod@utah.gov.**

Attachments

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UTAH DEPARTMENT OF TRANSPORTATION

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| TC 14 | Traffic Control Flagging Operation | **06/28/07** |
| TC 15 | Traffic Control 2 Lane/2 Way Seal Coat With Cover Material | **06/28/07** |
| TC 16 | Traffic Control Pavement Marking | **06/28/07** |

## Listing of Supplemental Drawings

# Issue Date: March 8, 2007

Revised February 22, 2007

| | |
|---|---|
| AT 2 | Ramp Meter Details |
| AT 3 | Deleted (Replaced by AT 3A and AT 3B) |
| AT 3A | Ramp Meter Sign Panel |
| AT 3B | Ramp Meter Sign Panel |
| AT 4 | Typical Ramp Meter Signal Head Mounting |
| AT 5 | Ramp Meter Loop Installation |
| AT 6 | Conduit Details |
| AT 7 | Polymer-Concrete Junction Box Details |
| AT 8 | ATMS Cabinet |
| AT 9 | ATMS Cabinet Disconnect And Transformer Frame |
| AT 15 | RWIS Site And Foundation Details |
| AT 16 | RWIS Tower Base And Service Pad Layout |
| AT 17 | Ground Rod Installation And Tower Grounding |
| AT 18 | TMS Detection Zone Layout |
| BA 1E | Precast Concrete Full Section Shoulder Applications |
| BA 4C | W-Beam Guardrail Transition Curb Section |
| GW 8 | Newspaper And Mailbox Support Hardware |
| PV 6 | Rumble Strips |
| PV 7 | Rumble Strips - Typical Application |
| PV 9 | Dowel Bar Retrofit |
| SL 9 | Pedestrian Signal Assembly |
| SN 9 | Ground Mounted Tubular Steel Sign Post (P2) |
| ST 3 | Typical Pavement Markings |
| ST 4 | Crosswalks, Parking And Intersection Approaches |

# Issue Date: May 10, 2007

Revised April 26, 2007

| | |
|---|---|
| AT 4 | Typical Ramp Meter Signal Head Mounting |
| AT 8 | ATMS Cabinet |
| CC 4 | Details for Placement Crash Cushions Type A, B, and D |
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| DD 14A | Typical Rural 2 Lane Road ‘Tee’ Intersection (High Speed) |
| DD 14B | Typical Rural 2 Lane Road ‘Tee’ Intersection (Low Speed) |
| DD 15A1 | Typical Rural 2 Lane Road Intersection (High Speed) |
| DD 15A2 | Typical Rural 2 Lane Road Intersection (High Speed) With Left Turn Acceleration Lane |
| DD 15B | Typical Rural 2 Lane Road Intersection (Low Speed) |

| | |
|---|---|
| DD 16 | Embankment for Bridge Placement |
| GW 5A | Pedestrian Access |
| GW 5B | Pedestrian Access |
| GW 5C | Pedestrian Access |
| PV 8 | Rumble Strips Centerline Application |
| TC 1A | Construction Zone Channelization Devices |
| TC 1B | Construction Zone Signing |
| TC 1C | Work Zone Advanced Warning Arrow Panels |
| TC 1D | Delineator Mounted Work Zone Sign Bracket |
| TC 2A | Hazard Mitigation |
| TC 2B | Traffic Control Drawing Series General Notes |
| TC 3 | Deleted (Replaced by TC 3A - TC 3D) |
| TC 3A | Standard Work Zone Signing General |
| TC 3B | Reduced Speed Work Zone Signing General |
| TC 3C | Traffic Control Project Limit Signing |
| TC 3D | Work Zone Specialty Signs |

## Issue Date: July 16, 2007

Revised June 28, 2007

| | |
|---|---|
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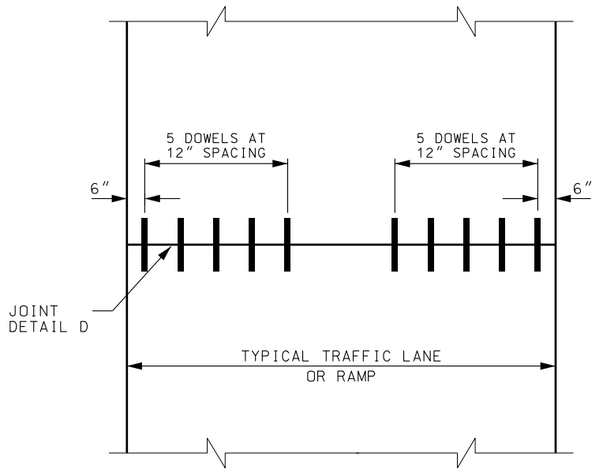
| TC 5 | Deleted |
| TC 6 | Traffic Control Pedestrian Routing |
| TC 7 | Traffic Control Road Closed, Diversion |
| TC 8 | Traffic Control Lane Closure |
| TC 9 | Deleted |
| TC 10 | Traffic Control Expressway And Freeway Crossover/Turn Around |
| TC 11 | Traffic Control Exit Ramp Gore |
| TC 12 | Traffic Control Entrance Ramp Gore |
| TC 13 | Traffic Control Shoulder-Haul Road |
| TC 14 | Traffic Control Flagging Operation |
| TC 15 | Traffic Control 2 Lane/2 Way Seal Coat With Cover Material |
| TC 16 | Traffic Control for Non-Durable Pavement Marking |

# STANDARD PCC PAVING




LOAD TRANSFER DOWEL BAR LAYOUT

NOTES:

1) ALL BARS ARE CORROSION RESISTANT PER SECTION 03211.

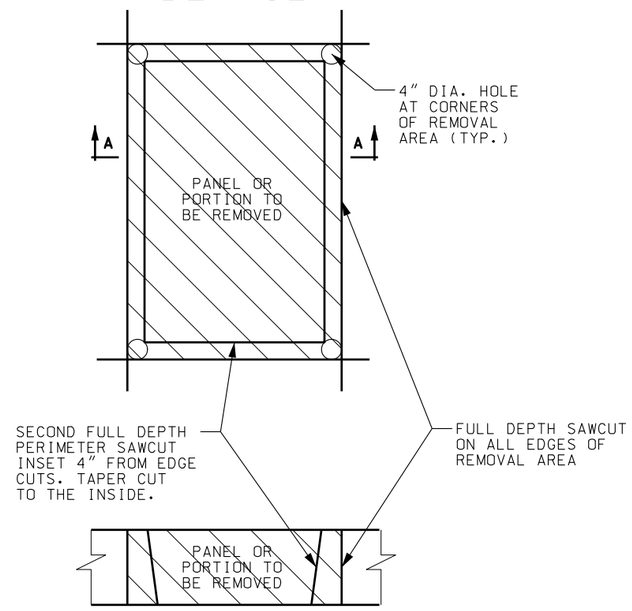
2) ALL TIE BARS ARE DEFORMED REBAR.

3) ALL DOWEL BARS ARE SMOOTH.

4) MAKE FULL DEPTH SAWCUT AROUND ALL EDGES OF PANELS OR PORTIONS REPLACED. MINIMIZE OVERCUT INTO ADJACENT PANELS.

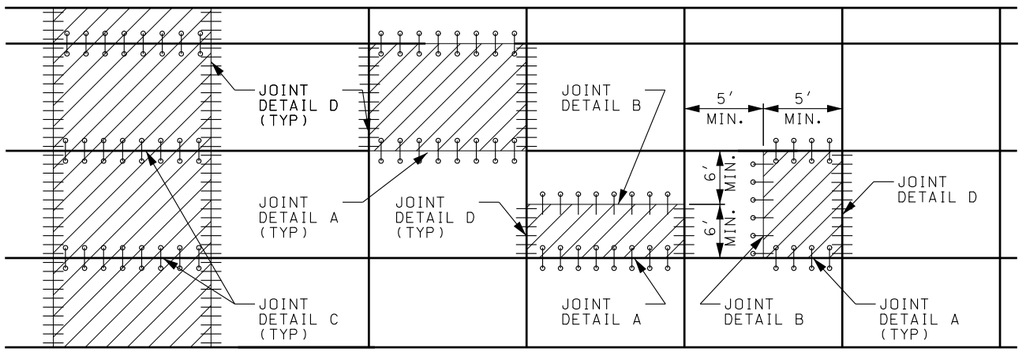
5) WHEN REPLACING A PARTIAL PANEL, IF THE WIDTH OF REMAING PORTION IS LESS THAN THE MINIMUM SHOWN, THEN REPLACE THE ENTIRE PANEL.

# PANEL REMOVAL DETAIL




SECTION A-A

# TYPICAL PAVEMENT PANEL REPLACEMENT

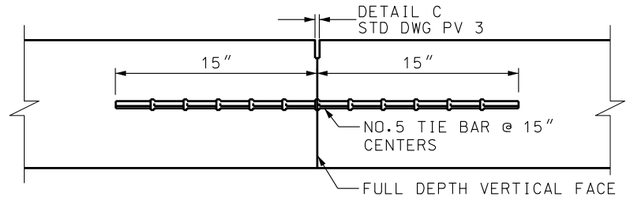



TIE BARS - SEE DETAIL "A" OR "C"

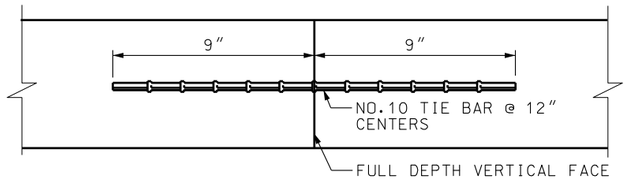
TIE BARS - SEE DETAIL "B"

DOWEL BARS - SEE DETAIL "D"

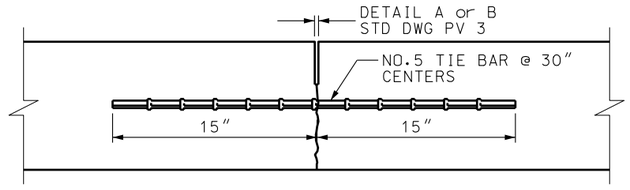
# JOINT SECTION DETAILS



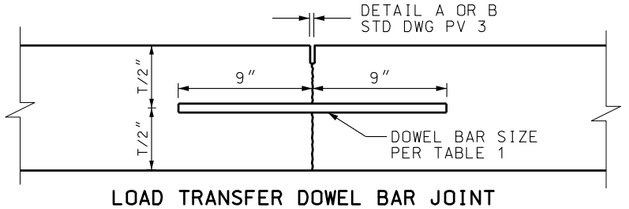

LONGITUDINAL CONTACT JOINT
DETAIL "A"




MID-PANEL CONTACT JOINT
DETAIL "B"




SAWED LONGITUDINAL JOINT
DETAIL "C"
(T/3 SAW CUT W/ AGGREGATE INTERLOCK BELOW)




LOAD TRANSFER DOWEL BAR JOINT
DETAIL "D"

INSTALL DOWEL BARS PARALLEL TO THE CENTERLINE AND TO THE PAVEMENT SURFACE. LIMIT DEVIATIONS FROM PARALLEL TO ± 1/4" IN THE LENGTH OF THE DOWEL BAR.

| TABLE 1 | |
|---|---|
| PAVEMENT THICKNESS | DOWEL BAR SIZE |
| 8"- 9.5" | NO.8 |
| 10" - 11.5" | NO.10 |
| 12" OR GREATER | NO.12 |

SUPPLEMENTAL DRAWING

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 06/28/07 | DL | DRAWING REVISED. NOTES ADDED. |

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.28.2007 DATE
CHAIRMAN STANDARDS COMMITTEE

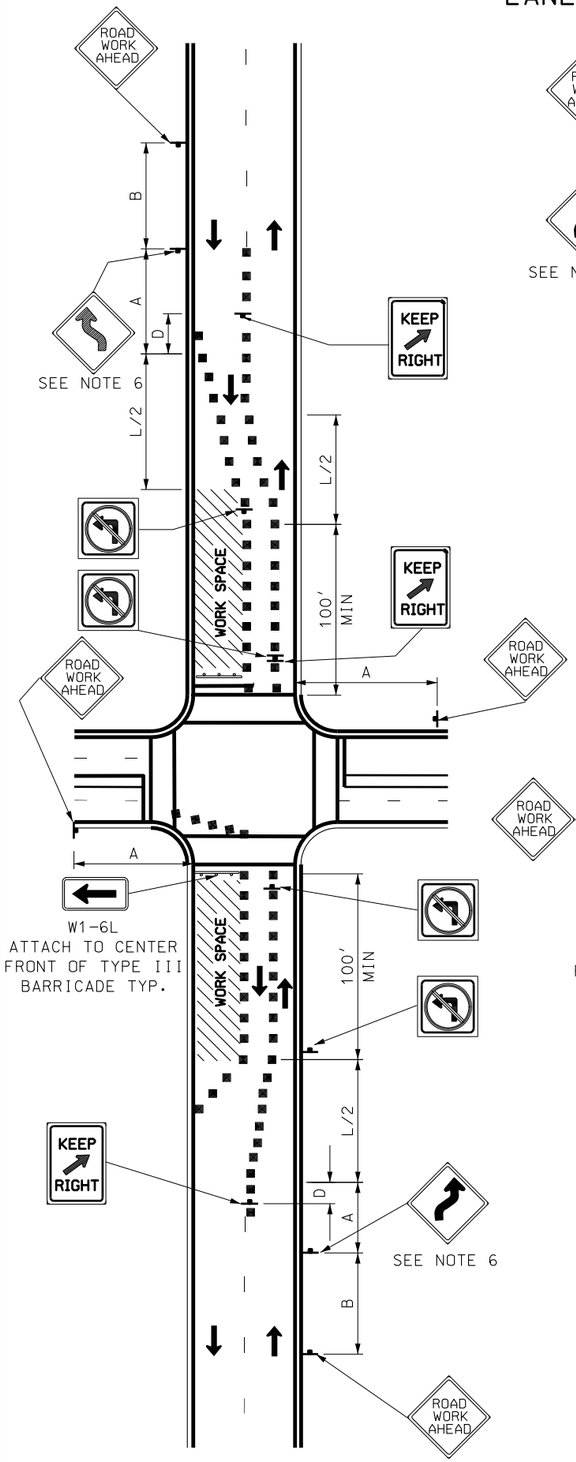
APPROVED — JUN.28.2007 DATE
DEPUTY DIRECTOR

CONCRETE PAVEMENT DETAILS FOR URBAN AND INTERSTATE

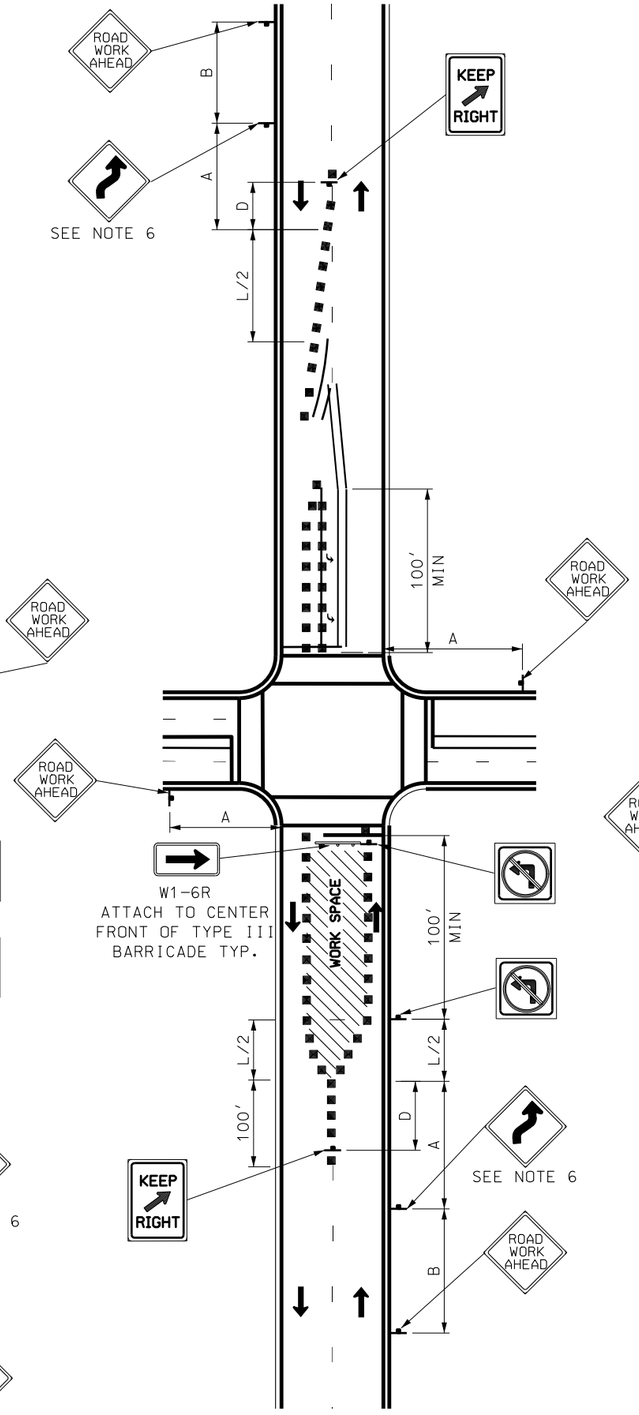
STANDARD DRAWING TITLE

STD DWG
PV 4

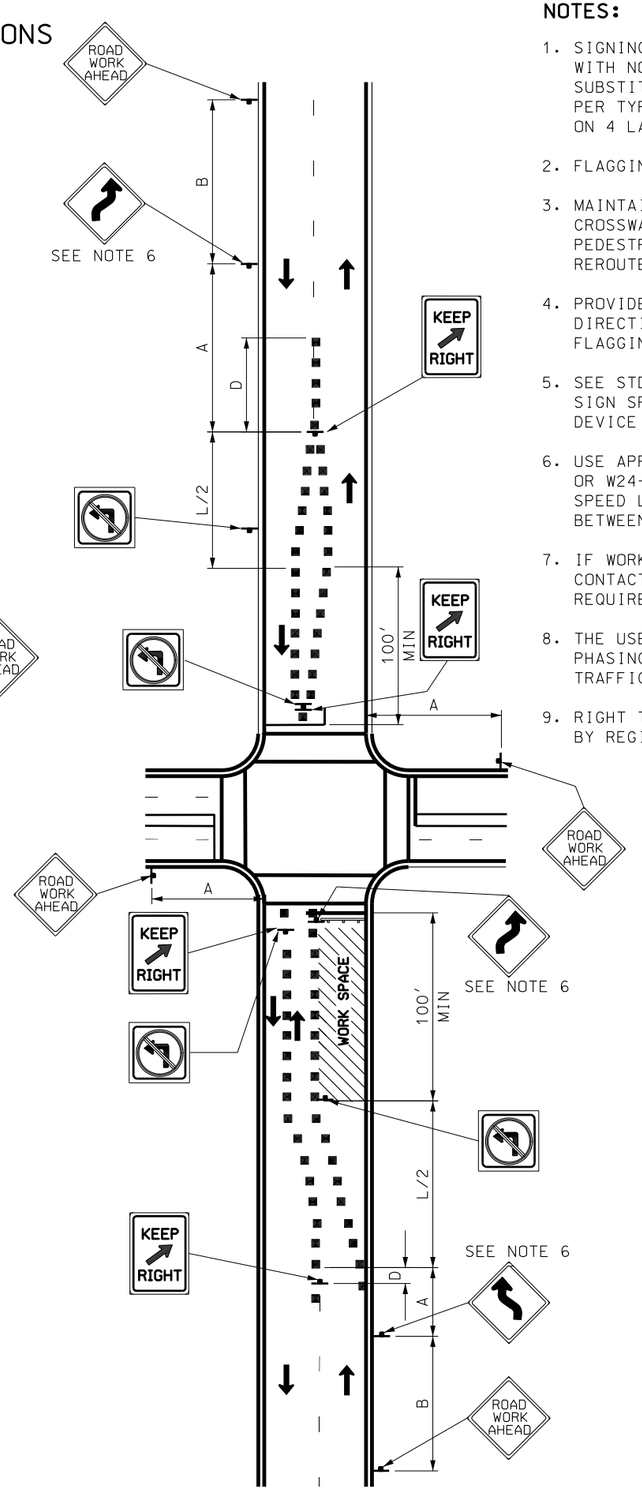
# LANE SHIFT FOR URBAN INTERSECTIONS




(DETAIL TC 4-1)




(DETAIL TC 4-2)




(DETAIL TC 4-3)

## NOTES:

1. SIGNING AND DEVICES SHOWN FOR 2 LANE ROADWAY WITH NO REDUCTION IN NUMBER OF LANES. SUBSTITUTE ADVANCE SIGNING AND DEVICES AS PER TYPICAL LANE CLOSURE. FOR LANE REDUCTION ON 4 LANES OR GREATER SEE STD DWG TC 8.
2. FLAGGING IS OPTIONAL WITH LANE CLOSURE.
3. MAINTAIN PEDESTRIAN TRAFFIC AT EXISTING CROSSWALKS AND ON EXISTING SIDEWALKS. WHEN PEDESTRIAN TRAFFIC CANNOT BE MAINTAINED REROUTE ACCORDING TO STD DWG TC 6.
4. PROVIDE A MINIMUM 10′ TRAFFIC LANE IN EACH DIRECTION. IF THIS CANNOT BE DONE USE A FLAGGING OPERATION AS PER STD DWG TC 14
5. SEE STD DWG TC 3A FOR TAPER, BUFFER ZONE & SIGN SPACING CHART AND TRAFFIC CONTROL DEVICE LEGEND.
6. USE APPROPRIATE SIGN SERIES (W1-3, W1-4, OR W24-1 SERIES) BASED UPON THE UPSTREAM SPEED LIMIT AND THE TANGENT DISTANCE BETWEEN CURVES.
7. IF WORKING IN A SIGNALIZED INTERSECTION CONTACT REGION TRAFFIC ENGINEER FOR REQUIREMENTS FOR DETERMINING SIGNAL NEEDS.
8. THE USE OF LEFT TURNS UNDER SPLIT SIGNAL PHASING REQUIRES APPROVAL OF THE REGION TRAFFIC ENGINEER.
9. RIGHT TURNS MAY BE PROHIBITED WHEN APPROVED BY REGION TRAFFIC ENGINEER.

SUPPLEMENTAL DRAWING

| NO. | DATE | APPR. | REVISIONS |
|---|---|---|---|
| 1 | 06/28/07 | JL | REVISED DRAWING, ADDED NOTES 6-9. |

REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.28,2007 DATE
CHAIRMAN STANDARDS COMMITTEE
APPROVED — JUN.28,2007 DATE
DEPUTY DIRECTOR

TRAFFIC CONTROL
URBAN INTERSECTION
WITH ROADWAYS UNDER
50 MPH
STANDARD DRAWING TITLE

STD DWG
TC 4

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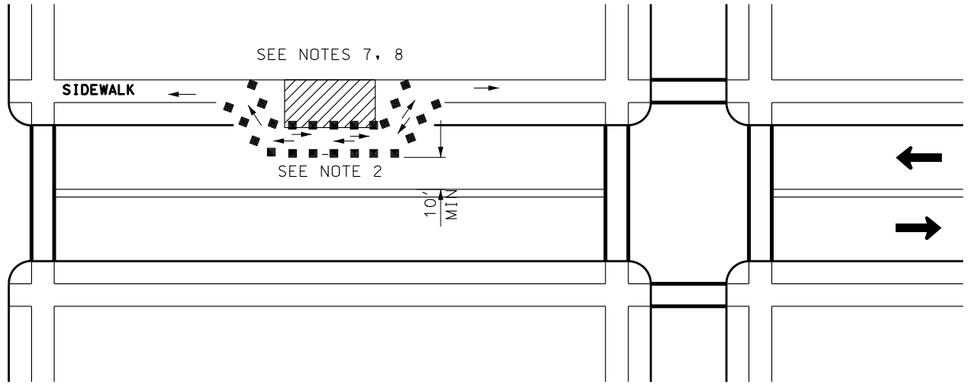
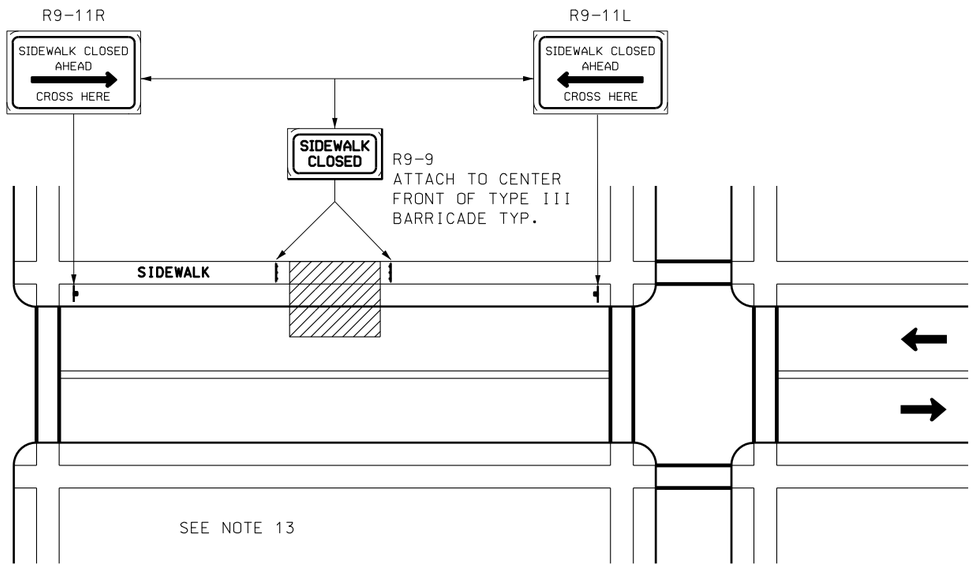
16-JUL-2007




## TEMPORARY WALKWAY
**(DETAIL TC 6-1)**
SEE NOTE 1




## ALTERNATE ROUTE
**(DETAIL TC 6-2)**
SEE NOTE 1

### NOTES:

1. ONLY THE TRAFFIC CONTROL DEVICES CONTROLLING PEDESTRIAN FLOWS ARE SHOWN. OTHER DEVICES ARE NEEDED TO CONTROL TRAFFIC ON THE STREET. USE LANE CLOSURE SIGNING OR ROAD NARROWS SIGNS, AS NEEDED.

2. PROVIDE A TEMPORARY WALKWAY A MINIMUM OF 48" WIDE AROUND THE THE WORK SPACE IF WALKWAY IS CLOSED TO PEDESTRIANS. MAINTAIN A MINIMUM TRAVELED WAY WIDTH OF 10'. IF THIS MINIMUM IS NOT ACHIEVED, THEN PROVIDE LANE SHIFTS, LANE CLOSURES, OR ENCROACH INTO OPPOSITE DIRECTION OF TRAFFIC AS PER STD DWG TC 8.

3. DIRECT PEDESTRIANS TO ALTERNATE ROUTES IF WALKWAY CANNOT BE PROVIDED. (SEE DETAIL TC 6-2)

4. COVER THE TEMPORARY WALKWAY WHEN POTENTIAL OF FALLING MATERIAL EXISTS.

5. CONSTRUCT TEMPORARY WALKWAY WITH A WOOD FLOOR OR PAVED SURFACE SO THAT IT IS TRAVERSABLE BY A WHEELCHAIR.

6. WHEN SIDEWALKS EXIST ON BOTH SIDES OF STREET COMPLETE WORK ON ONE SIDE AND REOPEN PRIOR TO STARTING WORK ON THE OTHER SIDE.

7. MOUNT SIGNS ON BARRICADE OR 7' MINIMUM HEIGHT ABOVE SIDEWALK.

8. PROVIDE DETECTABLE EDGING THE LENGTH OF THE TEMPORARY WALKWAY, EXCEPT WHERE GAPS ARE REQUIRED FOR PEDESTRIAN OR VEHICLE MOVEMENTS. THE EDGING SHOULD BE AT LEAST 6" ABOVE THE SURFACE OF THE PATHWAY, WITH THE BOTTOM OF THE EDGING A MAXIMUM OF $2\frac{1}{2}$" ABOVE THE SURFACE OF THE PATHWAY TO BE DETECTABLE BY USERS OF LONG CANES.

9. WHEN DRUMS, CONES, OR TUBULAR MARKERS ARE USED TO CHANNELIZE PEDESTRIANS, LOCATE THEM SUCH THAT THERE ARE NO GAPS BETWEEN THE BASES OF THE DEVICES IN ORDER TO CREATE A CONTINUOUS BOTTOM, AND THE HEIGHT OF EACH INDIVIDUAL DRUM, CONE, OR TUBULAR MARKER IS NO LESS THAN 36" TO BE DETECTABLE TO USERS OF LONG CANES. WHEN BARRICADES ARE USED TO CHANNELIZE PEDESTRIANS, THE BOTTOM OF THE BOTTOM RAIL WILL BE NO HIGHER THAN 6" OFF THE GROUND IN ADDITION TO THE ABOVE REQUIREMENTS.

10. USE A 20' CORNER RADIUS TO DEVELOP A TEMPORARY WALKWAY AROUND A CORNER.

11. DIRECT PEDESTRIANS TO AN INTERSECTION OR MARKED CROSSWALK AS AN ALTERNATE ROUTE WHEN POSSIBLE.

12. CONSULT REGION TRAFFIC ENGINEER WHEN SCHOOL ROUTING PLANS ARE AFFECTED.

13. DO NOT DIRECT PEDESTRIANS TO OPPOSITE SIDE IF SIDEWALK DOES NOT EXIST.

14. PROVIDE A 5' x 5' PASSING AREA EVERY 200' OF TEMPORARY SIDEWALK.

15. SEE STD DWG GW 5 SERIES FOR DESIGN DETAILS.

16. SEE STD DWG TC 3A FOR TRAFFIC CONTROL DEVICE LEGEND.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 06/28/07 | JL | REVISED DRAWING, ADDED NOTES 8, 9, 11, 14-16. |

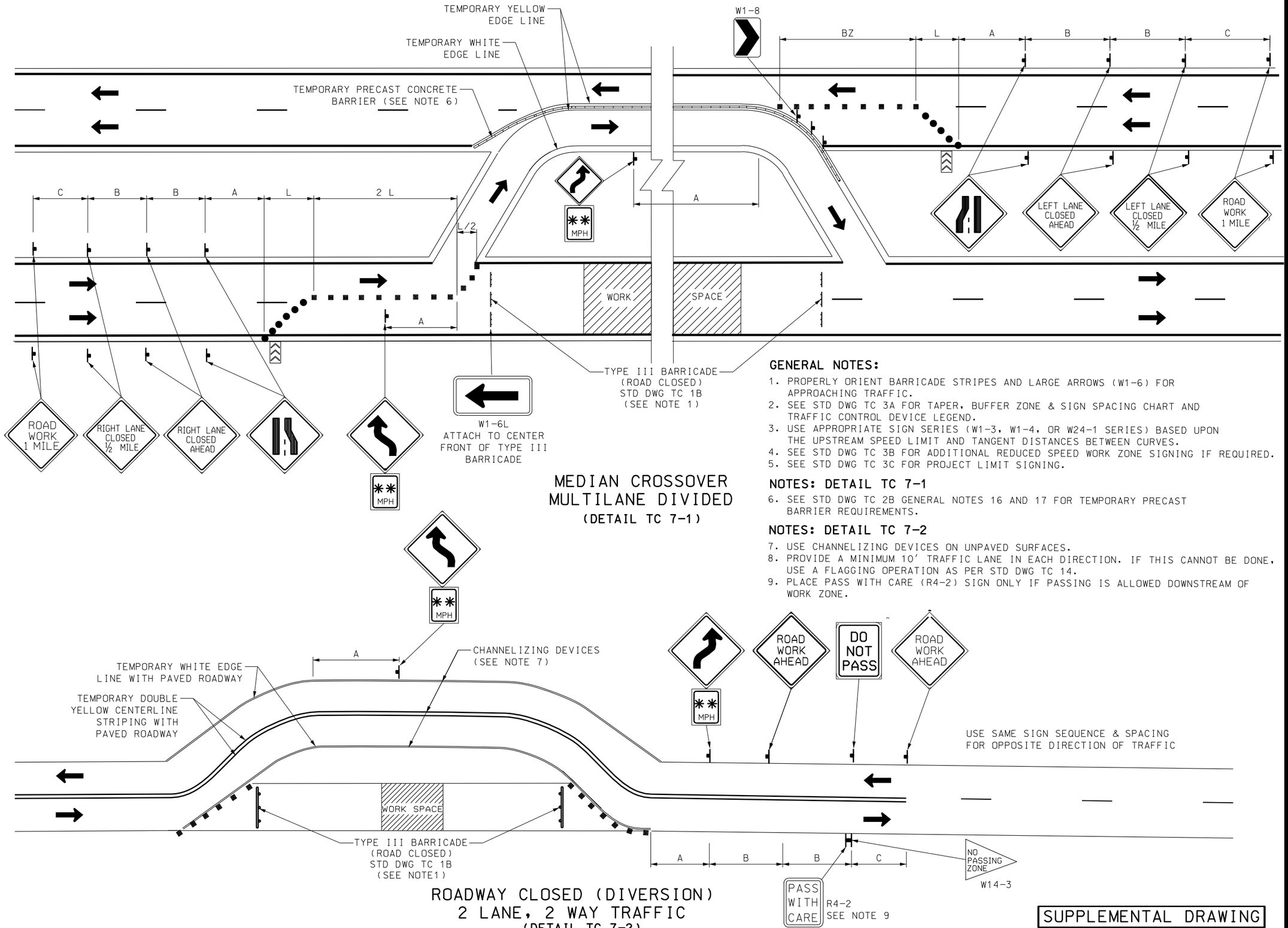
UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — DEPUTY DIRECTOR — JUN.28,2007 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — JUN.28,2007 DATE

# TRAFFIC CONTROL PEDESTRIAN ROUTING

STANDARD DRAWING TITLE

STD DWG
TC 6




## MEDIAN CROSSOVER MULTILANE DIVIDED
## (DETAIL TC 7-1)




## ROADWAY CLOSED (DIVERSION) 2 LANE, 2 WAY TRAFFIC
## (DETAIL TC 7-2)

### GENERAL NOTES:

1. PROPERLY ORIENT BARRICADE STRIPES AND LARGE ARROWS (W1-6) FOR APPROACHING TRAFFIC.
2. SEE STD DWG TC 3A FOR TAPER, BUFFER ZONE & SIGN SPACING CHART AND TRAFFIC CONTROL DEVICE LEGEND.
3. USE APPROPRIATE SIGN SERIES (W1-3, W1-4, OR W24-1 SERIES) BASED UPON THE UPSTREAM SPEED LIMIT AND TANGENT DISTANCES BETWEEN CURVES.
4. SEE STD DWG TC 3B FOR ADDITIONAL REDUCED SPEED WORK ZONE SIGNING IF REQUIRED.
5. SEE STD DWG TC 3C FOR PROJECT LIMIT SIGNING.

### NOTES: DETAIL TC 7-1

6. SEE STD DWG TC 2B GENERAL NOTES 16 AND 17 FOR TEMPORARY PRECAST BARRIER REQUIREMENTS.

### NOTES: DETAIL TC 7-2

7. USE CHANNELIZING DEVICES ON UNPAVED SURFACES.
8. PROVIDE A MINIMUM 10' TRAFFIC LANE IN EACH DIRECTION. IF THIS CANNOT BE DONE, USE A FLAGGING OPERATION AS PER STD DWG TC 14.
9. PLACE PASS WITH CARE (R4-2) SIGN ONLY IF PASSING IS ALLOWED DOWNSTREAM OF WORK ZONE.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 06/28/07 | JL | CHANGED TITLE, MODIFIED DWG, ADDED NOTES 3-5, 8, 9. |

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.28,2007 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — JUN.28,2007 DATE
DEPUTY DIRECTOR

TRAFFIC CONTROL
ROAD CLOSED,
DIVERSION
STANDARD DRAWING TITLE

STD DWG
TC 7

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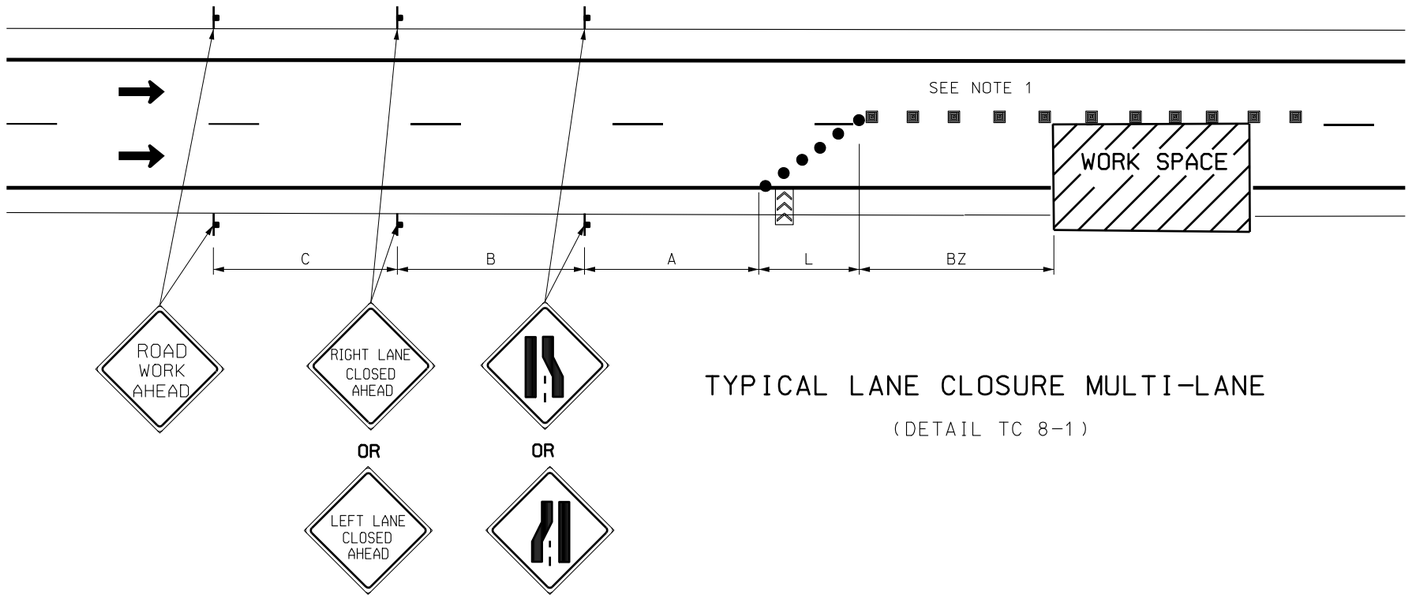
16-JUL-2007

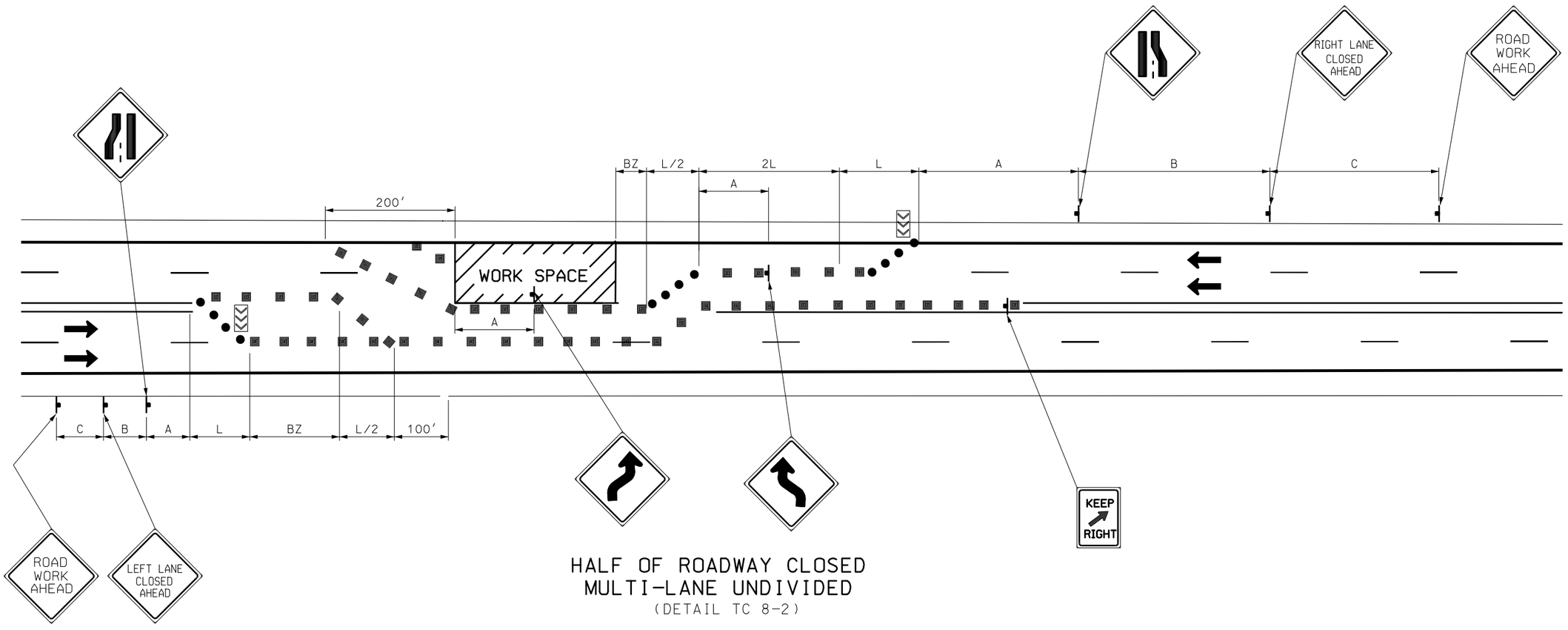



## TYPICAL LANE CLOSURE MULTI-LANE

(DETAIL TC 8-1)

**NOTES:**

1. USE PLASTIC DRUMS FOR LANE CLOSURE TAPER DEVICES FOR SPEEDS OF 50 MPH AND GREATER.
2. SEE STD DWG TC 3A FOR TAPER, BUFFER ZONE & SIGN SPACING CHART AND TRAFFIC CONTROL DEVICE LEGEND.
3. USE APPROPRIATE SIGN SERIES (W1-3, W1-4, OR W24-1 SERIES) BASED UPON THE UPSTREAM SPEED LIMIT AND TANGENT DISTANCES BETWEEN CURVES.




## HALF OF ROADWAY CLOSED MULTI-LANE UNDIVIDED

(DETAIL TC 8-2)

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 06/28/07 | JL | REVISED DRAWING, COMBINED NOTES, REVISED NOTE 1. |

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

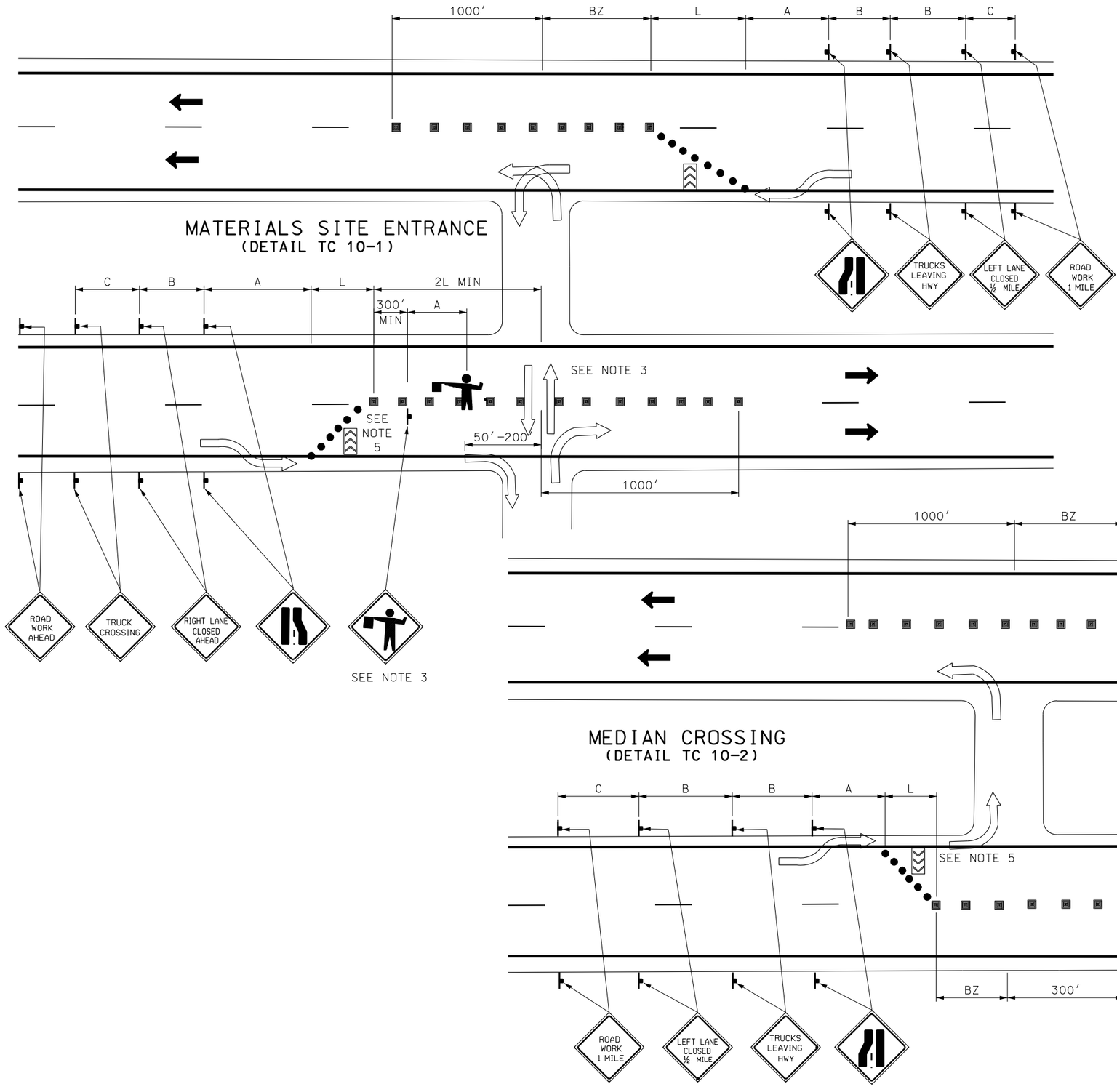
RECOMMENDED FOR APPROVAL — JUN.28,2007 DATE
CHAIRMAN STANDARDS COMMITTEE
APPROVED — JUN.28,2007 DATE
DEPUTY DIRECTOR

# TRAFFIC CONTROL LANE CLOSURE

STANDARD DRAWING TITLE

STD DWG
TC 8

DGN File: L:\Standard_Drawings\Imperial\2005Approved\v_Supplemental_Issues\v_Supp3Approved\TC08.dgn
16-JUL-2007




## NOTES:

1. THREE MILES OR GREATER IS REQUIRED BETWEEN TEMPORARY MEDIAN CROSSOVERS OR TURNAROUNDS.
2. DO NOT USE A CROSSOVER OR TURNAROUND WHEN AN INTERCHANGE IS WITHIN 4 MILES OF THE PROJECT, EXCEPT AS APPROVED BY THE REGION TRAFFIC ENGINEER.
3. CONSTRUCTION TRAFFIC CROSSING THE ACTIVE LANES HAS THE RESPONSIBILITY TO STOP OR YIELD TO THROUGH TRAFFIC. USE OF A FLAGGER IS PERMITTED IF SIGHT DISTANCE IS INADEQUATE TO NOTIFY CROSSING TRAFFIC WHEN TO PROCEED SAFELY. FLAGGERS WILL NOT STOP THROUGH TRAFFIC.
4. SEE STD DWG TC 3A FOR TAPER, BUFFER ZONE & SIGN SPACING CHART AND TRAFFIC CONTROL DEVICE LEGEND.
5. PLACE ADVANCE WARNING ARROW PANEL IN FIRST THIRD OF TAPER IN TRAFFIC LANE WHEN EXITING VEHICLES ARE USING THE SHOULDER.
6. PLACE TYPE III BARRICADES WITH ROAD CLOSED (R11-2) SIGNS ACROSS AN EXCLUSIVE USE HAUL ROAD WHEN IT IS NOT IN USE.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 06/28/07 | JL | REVISED DRAWING. COMBINED NOTES. ADDED NOTES 5 & 6. |

UTAH DEPARTMENT OF TRANSPORTATION

STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.28,2007 DATE
CHAIRMAN STANDARDS COMMITTEE
APPROVED — JUN.28,2007 DATE
DEPUTY DIRECTOR

TRAFFIC CONTROL
EXPRESSWAY AND
FREEWAY CROSSOVER/
TURN AROUND

STANDARD DRAWING TITLE

STD DWG
TC 10

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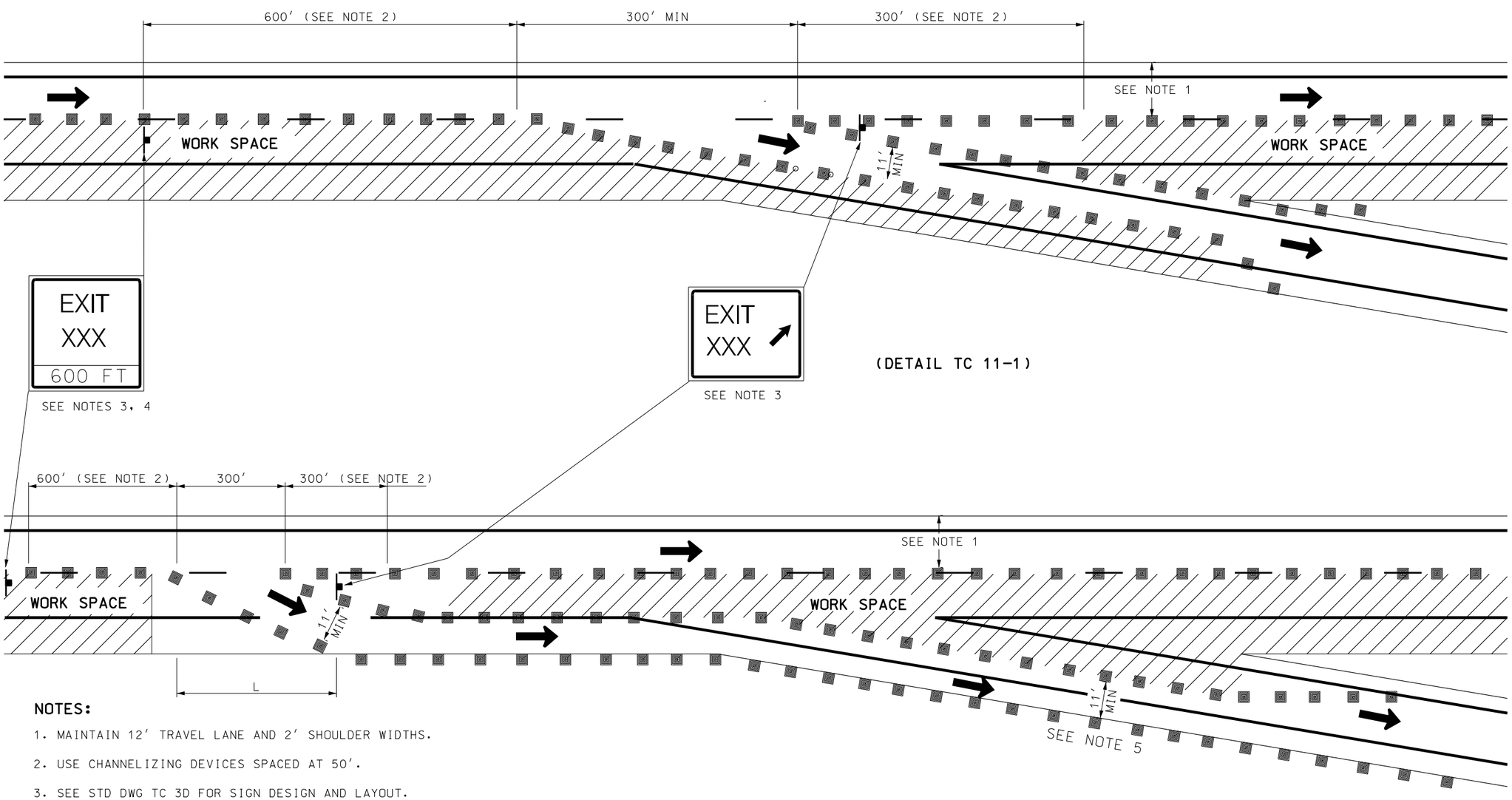
16-JUL-2007

# TRAFFIC CONTROL FOR EXIT RAMP GORE




**NOTES:**

1. MAINTAIN 12′ TRAVEL LANE AND 2′ SHOULDER WIDTHS.
2. USE CHANNELIZING DEVICES SPACED AT 50′.
3. SEE STD DWG TC 3D FOR SIGN DESIGN AND LAYOUT.
4. SIGN IS SUPPLEMENTAL TO STANDARD EXIT GUIDE SIGNING. STANDARD GUIDE SIGNING CONSISTS OF A MINIMUM OF ONE ADVANCE GUIDE SIGN AND THE EXIT DIRECTION GUIDE SIGN.
5. CHANNELIZING DEVICES NOT REQUIRED FOR RAMP RIGHT SHOULDER WHEN AVAILABLE PAVEMENT WIDTH IS GREATER THAN 13′ (11′ TRAVEL LANE AND 2′ SHOULDER).
6. SEE STD DWG TC 3A FOR TAPER, BUFFER ZONE & SIGN SPACING CHART AND TRAFFIC CONTROL DEVICE LEGEND.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 06/29/06 | BA | TYPO IN NOTE 3 CORRECTED. |
| 2 | 06/28/07 | JL | REVISED DRAWING, ADDED NOTES 4, 5 AND 6. |

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.28.2007 DATE
CHAIRMAN STANDARDS COMMITTEE
APPROVED — JUN.28.2007 DATE
DEPUTY DIRECTOR

TRAFFIC CONTROL
EXIT RAMP GORE

STANDARD DRAWING TITLE

STD DWG
TC 11

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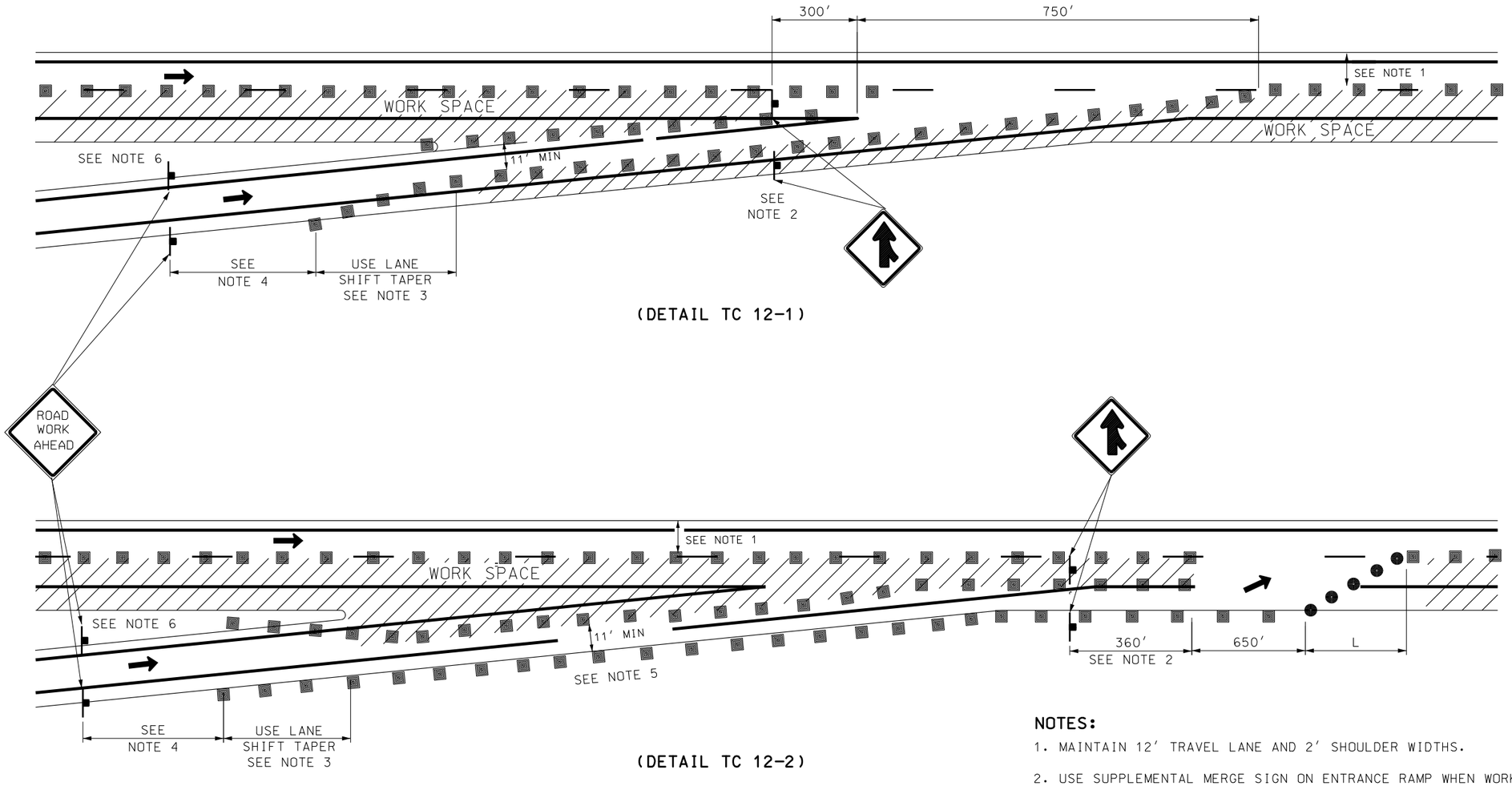
16-JUL-2007

# TRAFFIC CONTROL FOR ENTRANCE RAMP GORE




(DETAIL TC 12-1)

(DETAIL TC 12-2)

**NOTES:**

1. MAINTAIN 12' TRAVEL LANE AND 2' SHOULDER WIDTHS.
2. USE SUPPLEMENTAL MERGE SIGN ON ENTRANCE RAMP WHEN WORK SPACE IS WIDER THAN 12' OR WORK OBSCURES MAIN LINE SIGN.
3. USE 40 MPH SPEED FOR RAMP TRAFFIC CONTROL DESIGN UNLESS POSTED OR ADVISORY SPEED IS GREATER, IN WHICH CASE USE THE HIGHEST SPEED.
4. RAMP ADVANCED WARNING SIGN DISTANCE
   250' SPEED = 40 MPH
   500' SPEED ≥ 45 MPH
5. CHANNELIZING DEVICES NOT REQUIRED ON RAMP RIGHT SHOULDER WHEN AVAILABLE PAVEMENT WIDTH IS GREATER THAN 13'(11' TRAVEL LANE AND 2' SHOULDER).
6. USE SUPPLEMENTAL LEFT SIDE SIGNING FOR MULTI-LANE RAMPS.
7. SEE STD DWG TC 3A FOR TAPER, BUFFER ZONE & SIGN SPACING CHART AND TRAFFIC CONTROL DEVICE LEGEND.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 06/28/07 | JL | REVISED DRAWING, ADDED NOTES 2-7. |

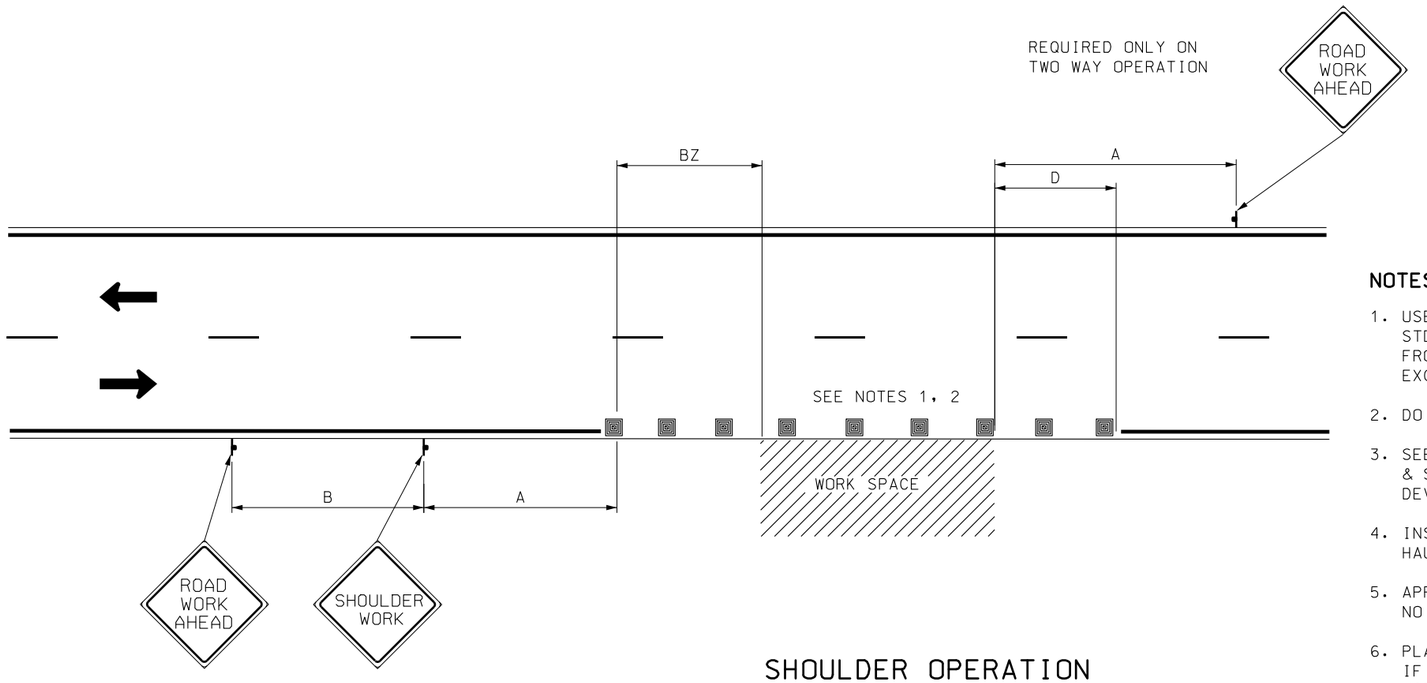
UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.28,2007 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — JUN.28,2007 DATE
DEPUTY DIRECTOR

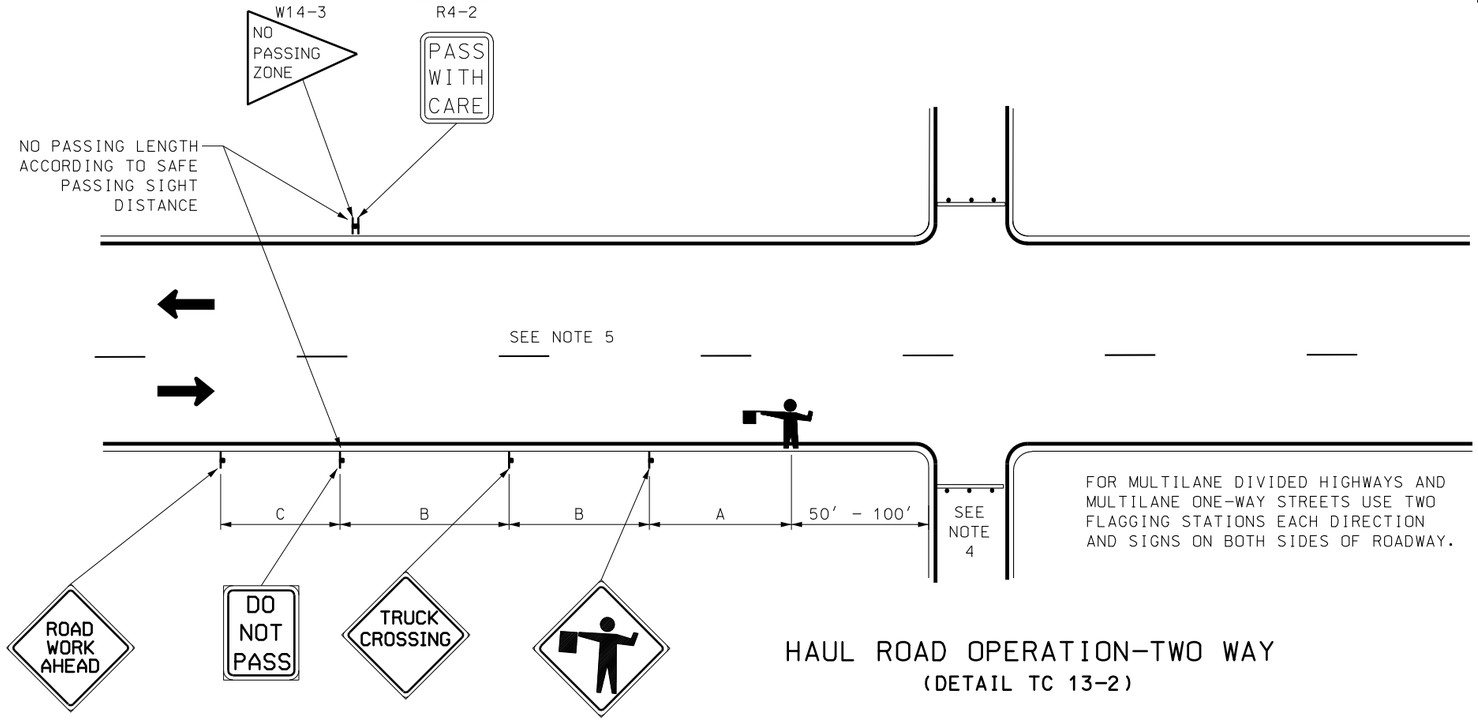
TRAFFIC CONTROL
ENTRANCE RAMP GORE

STANDARD DRAWING TITLE

STD DWG
TC 12




## SHOULDER OPERATION
**(DETAIL TC 13-1)**




## HAUL ROAD OPERATION–TWO WAY
**(DETAIL TC 13-2)**

**NOTES:**

1. USE CHANNELIZING DEVICES AS PER STD DWG TC 2A TO SEPARATE WORK ZONE FROM TRAVEL LANE WHEN WORK DURATION EXCEEDS 1 HOUR.
2. DO NOT ENCROACH INTO LANES.
3. SEE STD DWG TC 3A FOR TAPER, BUFFER ZONE & SIGN SPACING CHART AND TRAFFIC CONTROL DEVICE LEGEND.
4. INSTALL TYPE III BARRICADES WHEN HAUL ROAD IS NOT IN USE.
5. APPLY DOUBLE YELLOW STRIPING BETWEEN NO PASSING ZONE SIGNS.
6. PLACE "PASS WITH CARE" (R4-2) SIGN ONLY IF PASSING IS ALLOWED DOWNSTREAM OF WORK ZONE.
7. SEE STD DWG TC 3C FOR PROJECT LIMIT SIGNING.

USE SAME SIGN SEQUENCE AND SPACING FOR OPPOSITE DIRECTION OF TRAFFIC.

FOR MULTILANE DIVIDED HIGHWAYS AND MULTILANE ONE-WAY STREETS USE TWO FLAGGING STATIONS EACH DIRECTION AND SIGNS ON BOTH SIDES OF ROADWAY.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 06/28/07 | JL | REVISED DRAWING, COMBINED NOTES, ADDED NOTES 5-7. |

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.28,2007 DATE

CHAIRMAN STANDARDS COMMITTEE
APPROVED — JUN.28,2007 DATE

DEPUTY DIRECTOR

TRAFFIC CONTROL
SHOULDER HAUL ROAD
STANDARD DRAWING TITLE

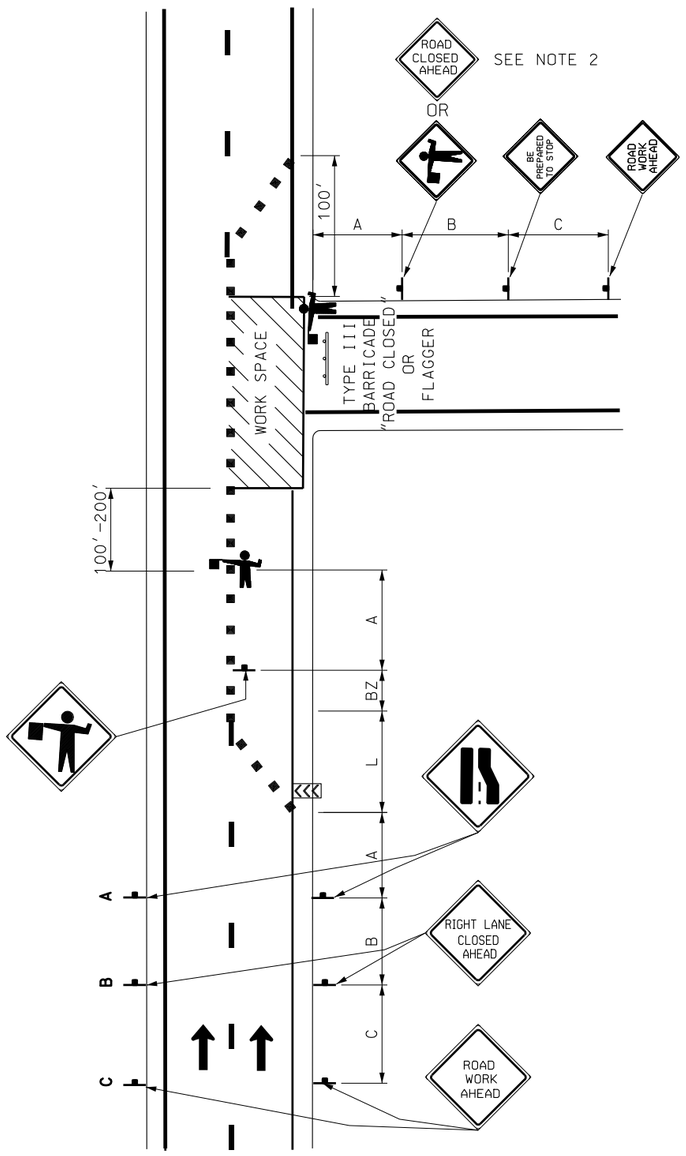
STD DWG
TC 13

DGN File: L:\Standard Drawings\Imperial\2006Approved\x_Supplemental Issues\x_Supp3Approved\TC13.dgn
16-JUL-2007

## NOTES:

1. USE A FLAGGER AT ALL INTERSECTING ROADWAYS. REFER TO STD SPECIFICATION 01554 FOR REQUIREMENT AT OPERATING TRAFFIC SIGNALS.
2. PROVIDE FLAGGING IF TURNING TRAFFIC CONFLICTS WITH ONE-WAY TRAFFIC.
3. PROVIDE A DETOUR WHEN ROAD CLOSURE EXCEEDS 24 HOURS.
4. SEE STD DWG TC 3A FOR TAPER, BUFFER ZONE & SIGN SPACING CHART AND TRAFFIC CONTROL DEVICE LEGEND.
5. SEE STD DWG TC 3C FOR PROJECT LIMIT SIGNING.

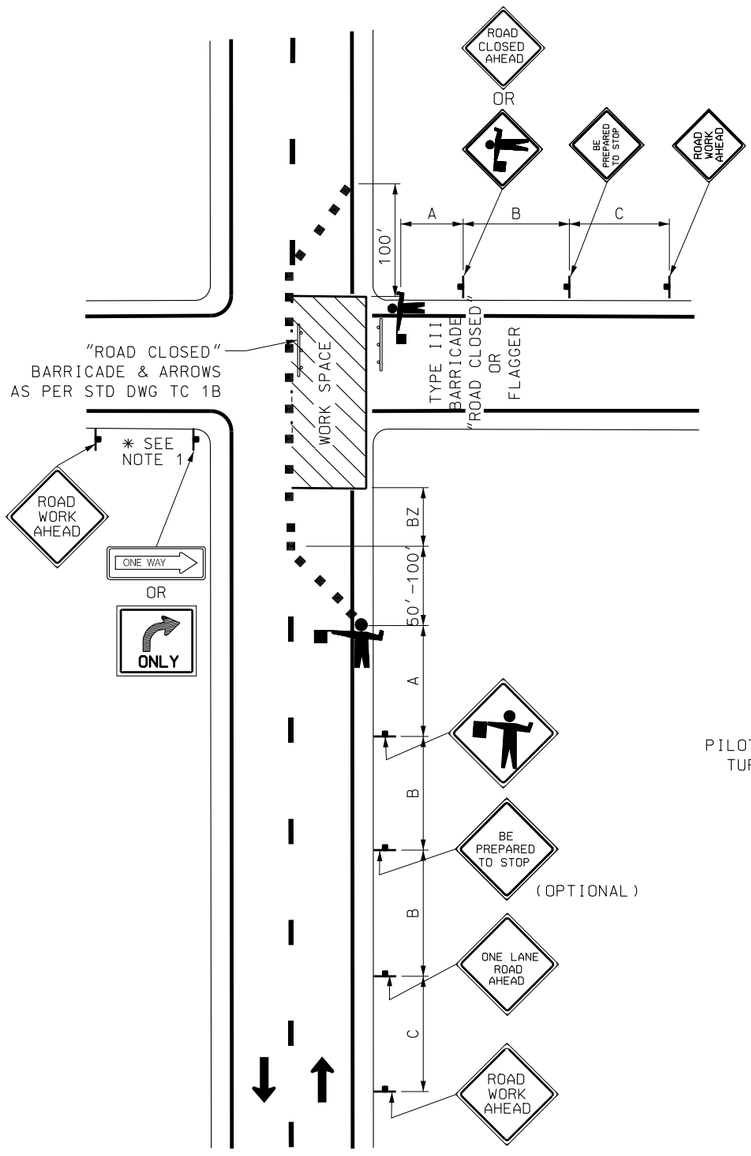
SUPPLEMENTAL DRAWING




FLAGGING OPERATION – ONE WAY WITH POTENTIAL ENCROACHMENT BY WORK VEHICLE

(DETAIL TC 14-1)

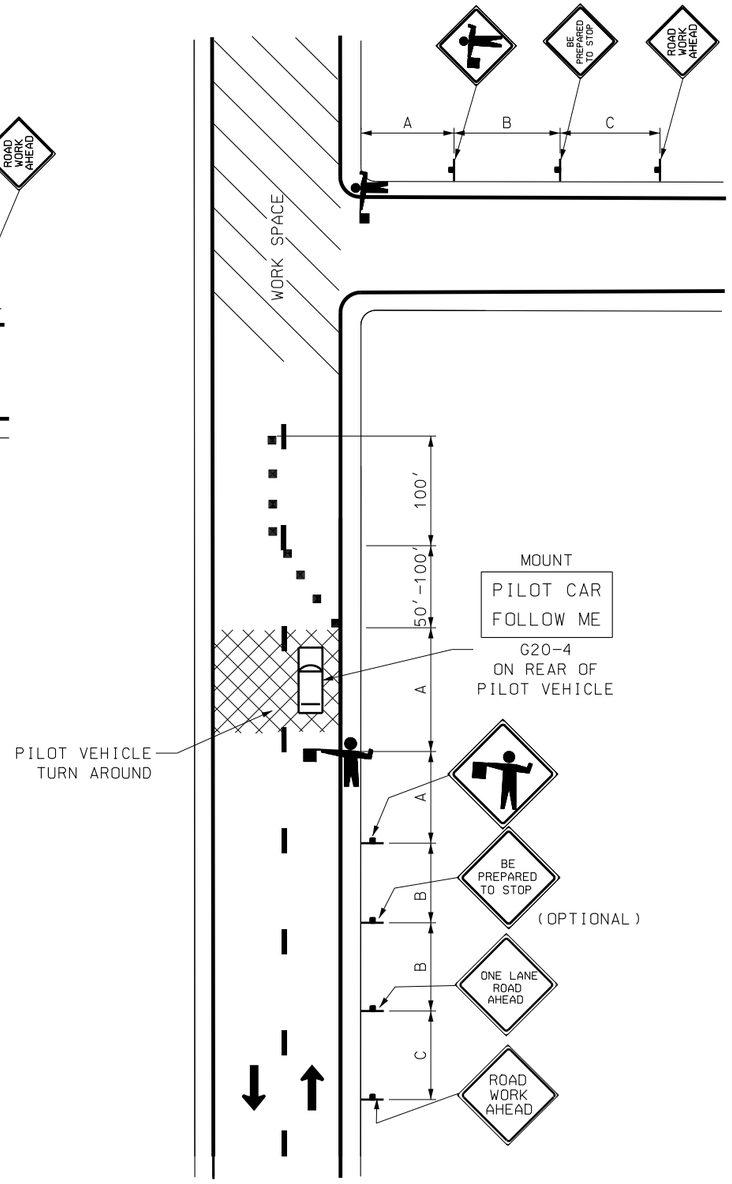
USE SAME SIGN SEQUENCE, SPACING, & FLAGGER FOR OPPOSITE DIRECTION OF TRAFFIC.




FLAGGING OPERATION – TWO WAY WITH ONE LANE CLOSED

(DETAIL TC 14-2)

USE SAME SIGN SEQUENCE, SPACING, & FLAGGER FOR OPPOSITE DIRECTION OF TRAFFIC.




FLAGGING OPERATIONS WITH USE OF PILOT VEHICLE

(DETAIL TC 14-3)

| NO. | DATE | APPR. | REVISIONS |
|---|---|---|---|
| 1 | 06/28/07 | JL | REVISED DRAWING, ADDED NOTE 5. |

REMARKS

UTAH DEPARTMENT OF TRANSPORTATION

STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION

SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.28.2007 DATE

CHAIRMAN STANDARDS COMMITTEE APPROVED — JUN.28.2007 DATE

DEPUTY DIRECTOR

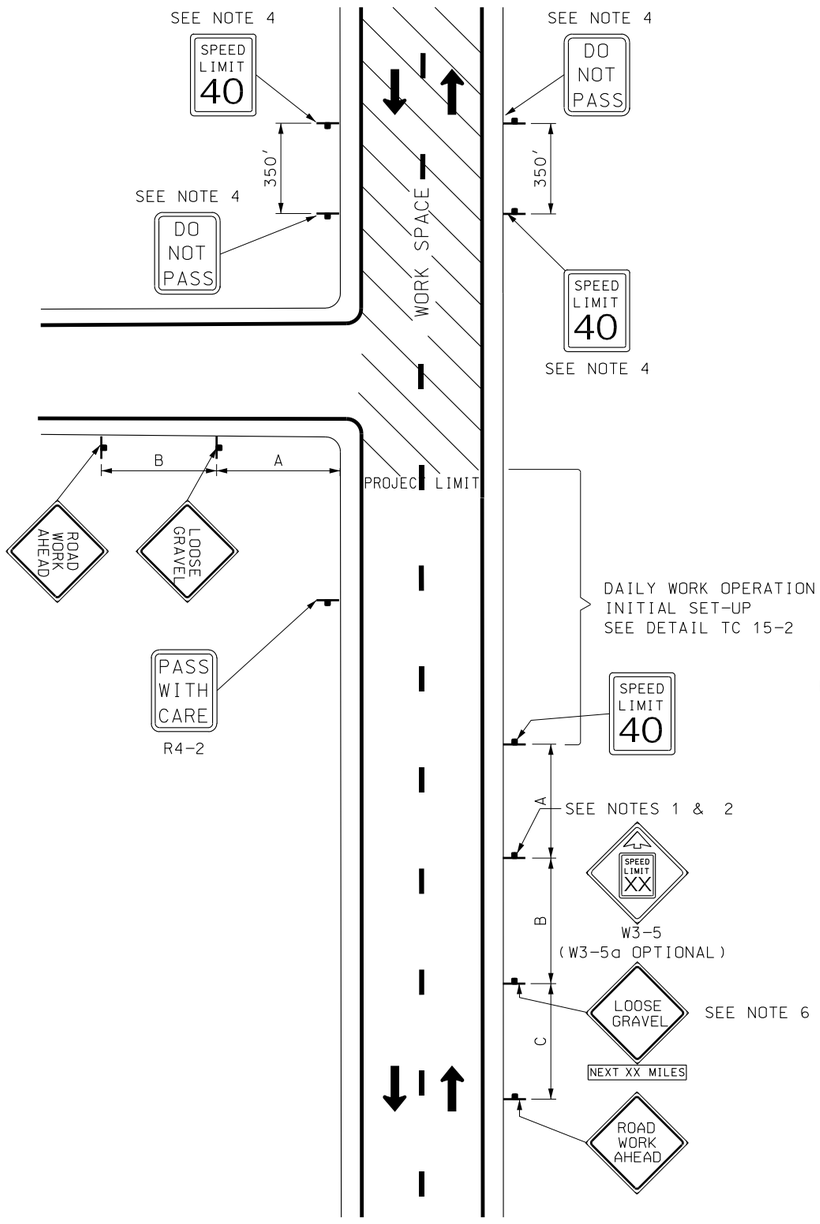
STANDARD DRAWING TITLE

TRAFFIC CONTROL FLAGGING OPERATION

STD DWG TC 14

# PROJECT SIGNING
## 2 LANE–2 WAY

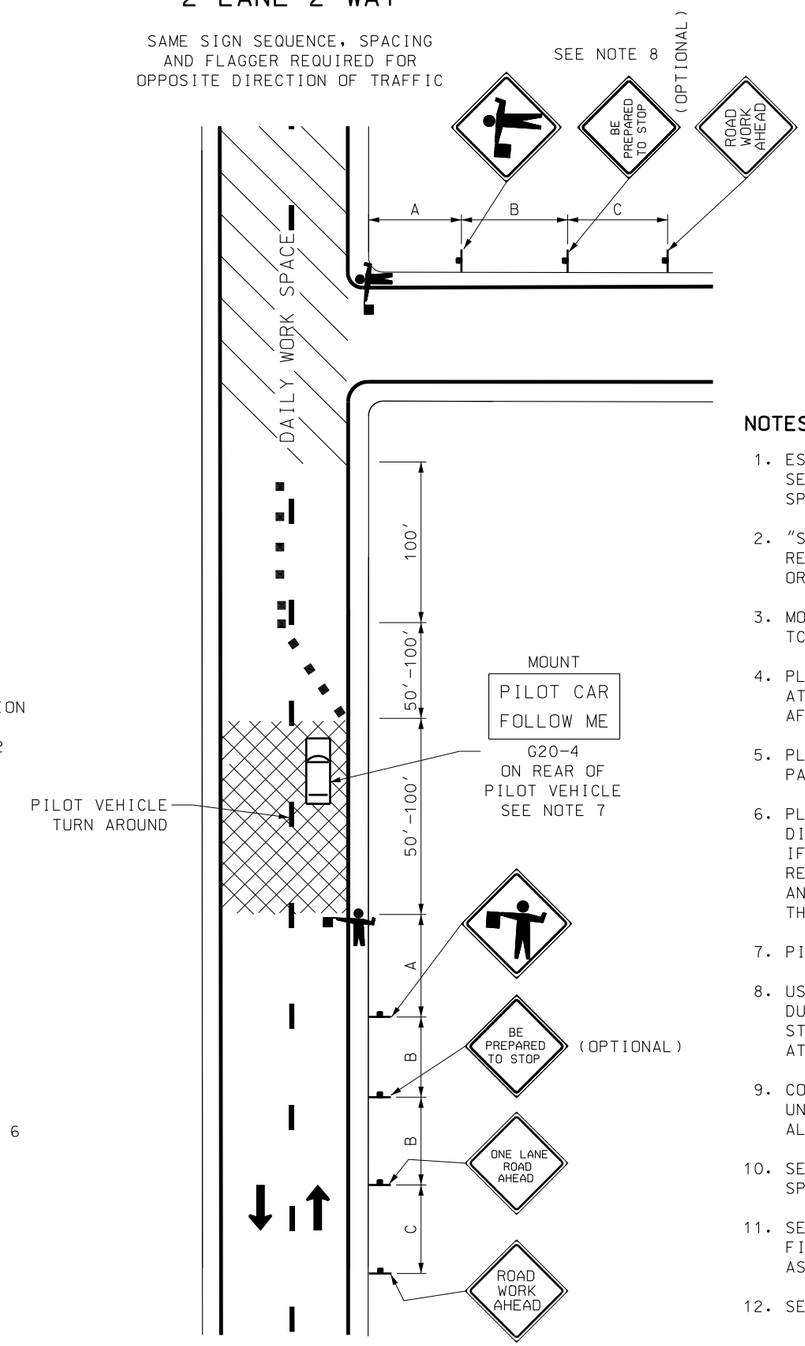
SAME SEQUENCE AND SPACING
REQUIRED FOR OPPOSITE
DIRECTION OF TRAFFIC




(DETAIL TC 15-1)

# DAILY WORK OPERATION
## 2 LANE–2 WAY

SAME SIGN SEQUENCE, SPACING
AND FLAGGER REQUIRED FOR
OPPOSITE DIRECTION OF TRAFFIC




FLAGGING /PILOT VEHICLE
OPERATION
(DETAIL TC 15-2)

## NOTES:

1. ESTABLISH A REDUCED SPEED LIMIT OF 40 MPH FOR SEAL COAT AND COVER MATERIAL OPERATIONS WHEN SPEEDS ARE GREATER THAN 40 MPH.
2. "SPEED REDUCTION" AND "SPEED LIMIT" SIGNING NOT REQUIRED WHEN EXISTING SPEED LIMITS ARE 40 MPH OR LESS.
3. MOVE DAILY WORK OPERATION SIGNING, DETAIL TC 15-2, AS WORK PROGRESSES.
4. PLACE "DO NOT PASS" AND "SPEED LIMIT" SIGNS AT 1 MILE INTERVALS THROUGH THE PROJECT AND AFTER MAJOR INTERSECTIONS.
5. PLACE "PASS WITH CARE" (R4-2) SIGN ONLY IF PASSING IS ALLOWED DOWNSTREAM OF WORK ZONE.
6. PLACE "LOOSE GRAVEL" SIGN WITH APPROPRIATE DISTANCE MESSAGE $^1/_2$ WAY THROUGH THE PROJECT IF PROJECT LENGTH IS LESS THAN 10 MILES. REPEAT EVERY 5 MILES ON LONGER PROJECTS WITH AN AUXILIARY DISTANCE PLAQUE COUNTING DOWN THE DISTANCE TO THE PROJECT LIMITS.
7. PILOT VEHICLE NOT TO EXCEED SPEED OF 40 MPH.
8. USE A FLAGGER AT ALL INTERSECTING ROADWAYS DURING DAILY WORK OPERATIONS. REFER TO STANDARD SPECIFICATION 01554 FOR REQUIREMENTS AT OPERATING TRAFFIC SIGNALS.
9. CONTINUE FLAGGING AND PILOT VEHICLE OPERATIONS UNTIL THE ENGINEER OR THEIR REPRESENTATIVE ALLOWS FREE FLOW TRAFFIC TO PROCEED.
10. SEE STD DWG TC 3A FOR TAPER, BUFFER ZONE & SIGN SPACING CHART AND TRAFFIC CONTROL DEVICE LEGEND.
11. SEE STD DWG TC 3D FOR DESIGN AND LAYOUT OF FINES DOUBLE AND FINES DOUBLE SPEED LIMIT ASSEMBLY IF REQUIRED.
12. SEE STD DWG TC 3C FOR PROJECT LIMIT SIGNING.

SUPPLEMENTAL DRAWING

| NO. | DATE | APPR. | REVISIONS |
|---|---|---|---|
| 1 | 06/28/07 | JL | REVISED DRAWING, ADDED NOTES 5, 11, AND 12. |

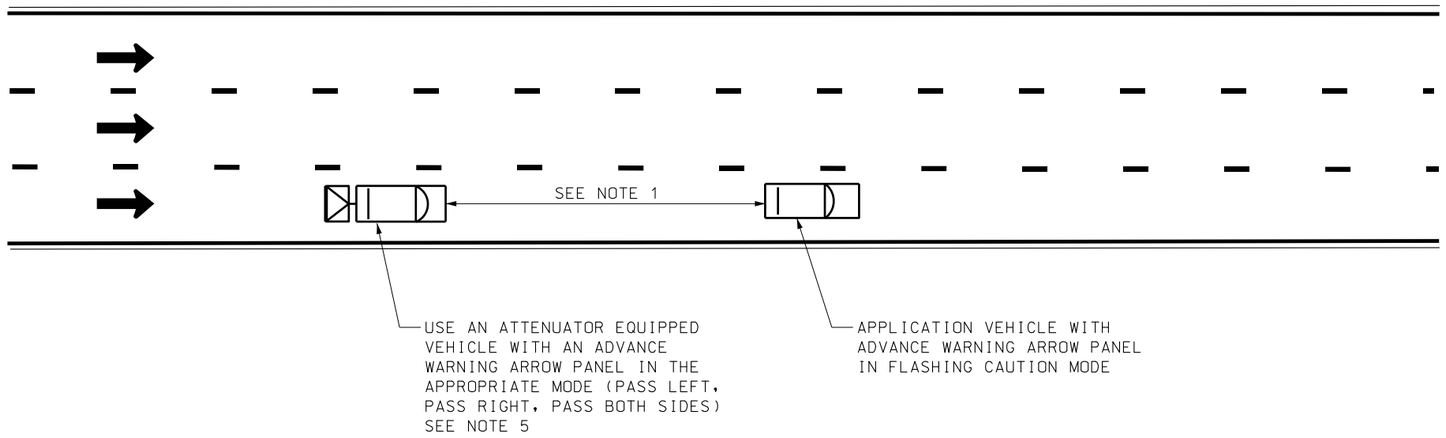
UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.28,2007 DATE
CHAIRMAN STANDARDS COMMITTEE
APPROVED — JUN.28,2007 DATE
DEPUTY DIRECTOR

TRAFFIC CONTROL
2 LANE/ 2 WAY
SEAL COAT WITH
COVER MATERIAL
STANDARD DRAWING TITLE

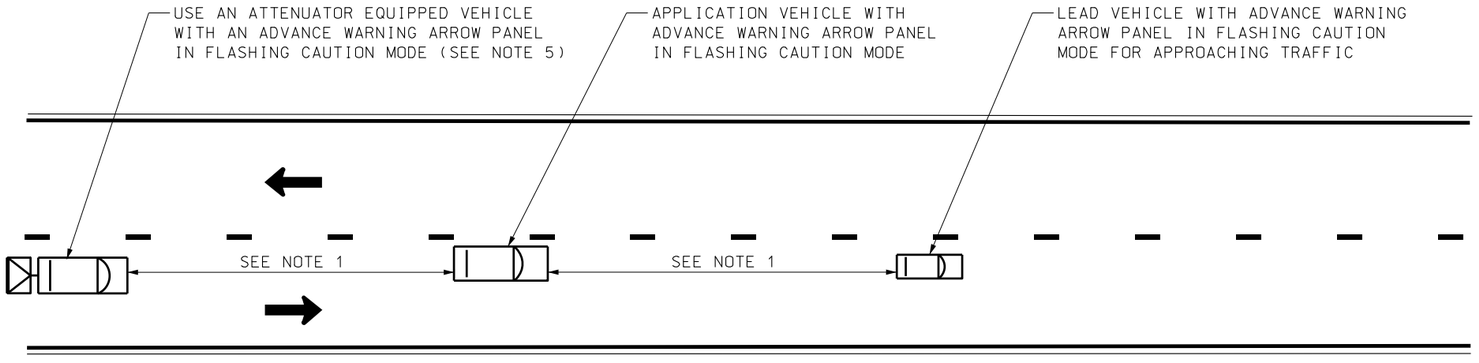
STD DWG
TC 15

DGN File:L:\Standard Drawings\Imperial\2006Approved\v_Supplemental Issues\v_Supp3Approved\TC15.dgn
16-JUL-2007




## MULTILANE
## LANE LINES & SHOULDERS

**(DETAIL TC 16-1)**




## TWO LANE-TWO WAY
## CENTER & SHOULDERS

**(DETAIL TC 16-2)**

**NOTES:**

1. DO NOT EXCEED 300' SPACING BETWEEN THE APPLICATING TRUCK AND THE FOLLOW OR LEAD VEHICLE.
2. NO STATIC SIGNS ARE REQUIRED WITH THESE OPERATIONS.
3. ALL EQUIPMENT TO HAVE ROTARY STROBE LIGHTS AND EMERGENCY FLASHERS IN OPERATION.
4. USE TYPE B ADVANCED WARNING ARROW PANEL. SEE STD DWG TC 1C.
5. USE NCHRP-350 APPROVED TRUCK MOUNTED ATTENUATOR (TMA) MEETING THE REQUIREMENTS FOR THE POSTED SPEED LIMIT.

   TL-2 RATED SYSTEM FOR SPEEDS 45 ≤ MPH,
   TL-3 RATED SYSTEM FOR SPEEDS 50 ≥ MPH.
6. SEE STD DWG TC 3A FOR TRAFFIC CONTROL DEVICE LEGEND.

SUPPLEMENTAL DRAWING

REVISIONS

| NO. | DATE | APPR. | REMARKS |
|---|---|---|---|
| 1 | 06/28/07 | JL | CHANGED TITLE, REVISED DRAWING, ADDED NOTE 6. |

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — DEPUTY DIRECTOR — JUN.28,2007 DATE
CHAIRMAN STANDARDS COMMITTEE APPROVED — JUN.28,2007 DATE

TRAFFIC CONTROL FOR NON-DURABLE PAVEMENT MARKING

STANDARD DRAWING TITLE

STD DWG
TC 16